EXPLANATORY LEGEND FOR VEGETATION MAPS OF THE KAMLOOPS LAKE BIO-PHYSICAL STUDY AREA

Ministry of
Environment
Victoria, B.C.

Wildlife Working Report No. WR-36
December 1988

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Victoria, B.C.

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This report was begun in 1985. Since this time reorganization has placed the map distribution group, MAPS - B.C., in a different ministry. Maps to accompany this report can be obtained from:

M.PS -B.C.
Surveys and Resource Mapping Branch
553 Superior Street
Victoria, B.C.
V8V 1X5
(604) 387-1441

Another change since this report and the accompanying maps were finalized is the source for common plant names. The main reference is now:

Meidinger, D. 1987. Recommended vernacular names for common plants of British Columbia. Ministry of Forest and Lands, Victoria, B.C.

ACKNOWLEDGEMENTS

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CHAPTER ONE
INTRODUCTION

1.1 STUDY AREA

This legend applies to vegetation maps of the Kamloops Lake area of south-central British Columbia. The study area and maps cover portions of National Topographic Series mapsheets 92I/9, 10, 15 and 16.

This project was requested by the Fish and Wildlife Branch, British Columbia Ministry of Environment and Parks, Kamloops, British Columbia to map vegetation to aid in assessing and managing ungulate habitat. Field work took place in 1981 and 1984. Data forms used are described in Walmsley et al (1980). The vegetation mapping methodology is described in Lea and van Barneveld (in preparation). Maps showing ungulate capability for this area are available (Stewart, 1988).

1.2 ADDITIONAL INFORMATION

Additional information pertaining to the study area may be obtained by writing to:

MAPS-B.C.,
Surveys and Resource Mapping Branch,
British Columbia Ministry of Environment and Parks
Parliament Buildings,
Victoria, British Columbia.
V8V 1X5

1.3 SOURCES OF INFORMATION

a) British Columbia Ministry of Forests
   i) Forest Cover Maps
      Kamloops P. S. Y. U. - 92I/NE - 1:50 000
      1983 District Office update 1:20 000
   ii) Research Branch Data - Kamloops Region
      Vegetation and soil survey - 150 plots

b) British Columbia Ministry of Environment
   i) Vegetation and soil survey (1981, 1984) - 85 plots
   ii) Soil and Terrain maps (1976) - 1:50 000
   iii) Dewdrop/Tranquille River map (Lea, 1984) and report (Lea et al, 1985)

c) British Columbia Ministry of Environment
   Surveys and Mapping Branch
   i) 1:30 000 aerial photographs (1976)

d) References freely consulted are listed in the back

1.4 HOW TO USE THIS LEGEND FOR DESCRIPTION OF VEGETATION UNITS

To obtain the description of a vegetation map unit label proceed through the following steps:

Step 1) Locate the map unit of interest on the maps.

Step 2) Determine which circular label lies within the same Zonal or Subzonal boundary lines (heavy gauge solid or dashed) as the map unit of interest.

Step 3) Go to Section 4.2 of this booklet and match this circular label from the map with the identical label in this section to determine which zone and subzone the circular label indicates.

Step 4) In Section 4.3 find the Vegetation Landscape Unit descriptions in the part headed by this zone and subzone name.

Step 5) From the map determine the vegetation label of the map unit.

Step 6) Match the alphabetical part of this label with the identical label in the appropriate part of Section 4.3. This will give a description for the map unit; including habitat, successional trends and winter forage availability for wild ungulates.

CHAPTER TWO
VEGETATION CONCEPTS AND SYMBOLS

2.1 CONCEPTS AND CLASSIFICATION SYSTEM

In mountainous terrain, regional climate is reflected in the vegetation as a series of (more or less) horizontal belts of vegetation each dominated by characteristic species. These vegetation patterns are classified in the bio-physical classification. The bio-physical vegetation zones and subzones are the basic building blocks of this classification. The vegetation zone is an area over which one kind of climax vegetation can dominate as a result of more or less uniform climatic conditions. The vegetation subzone is a subdivision of the vegetation zone, based on differences in climate-related successional trends in the dominant vegetation within each zone. At a more detailed level, variation in the actual vegetation may be attributed to soils, surface relief and history of disturbance.

Bio-physical Classification[1]

1. Vegetation Region: An area of the landscape displaying various patterns of zones and subzones, reflecting a regional climate. The various patterns typically have a "key zone" in common. The key zone may occur with various combinations of zones and subzones. In areas of little relief the Region may consist of only the key zone. In mountainous terrain the key zone is often the lower of several zones.

2. Vegetation Section[2]: A subdivision of a Region, a Section is an area of the landscape that displays different Vegetation Zonation patterns resulting from variations of the climate within the Region.

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[1]These classes express the relationship between vegetation and climate at regional and subregional scales.
[2]Vegetation Sections are not delineated for this study area.

3. Vegetation Zone: An area of the landscape for which similar habitats can support similar dominant climax vegetation. The Zone reflects a relatively narrow range in bioclimate. Differences in the climax vegetation within a Zone may be attributed to variations in the soil and/ or position in the landscape.

4. Subzone: A subdivision of a Zone, a subzone is an area displaying specific successional trends in the dominant vegetation. The subzone corresponds with an even narrower range in bioclimatic conditions than the zone. The subzone is characterized by (and usually named after) a unique combination of seral species or a characteristic growth form of species.

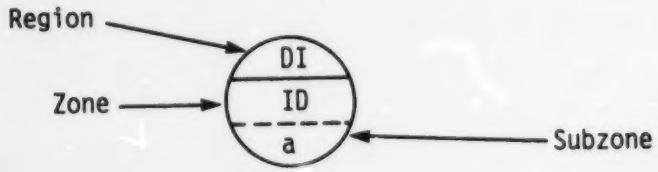
At more detailed scales, the local (site) characteristics, such as topography, surficial deposits, climate and soils, play a more prominent role in vegetation differentiation. The landscape may be divided into bio- physical units of varying detail, depending on which and how many of the local factors are taken into consideration (expressed on a map, these units are referred to as Bio-physical Map Units). The Vegetation Landscape Units are one form of bio-physical map units. They represent landscape areas that are relatively homogeneous with regard to topography, soils, surficial materials, disturbance history, climate and trends of succession. Therefore, each kind of unit represents ecological landscape segments that are relatively similar with regard to management alternatives and constraints to use. The Vegetation Landscape Units are separated into successional stages. Within these units inclusions of other types of vegetation landscapes or other stages of the same landscape may occupy up to 15 per cent of the area mapped. The legend describes the typical expected vegetation for each successional stage of a Vegetation Landscape. The concepts and methods for mapping are more fully described in Lea and van Barneveld (in preparation).

Plant names used throughout this legend follow Taylor and MacBryde (1977). A species list, giving common and botanical names, is in Appendix A.

2.2 EXAMPLES OF MAP UNIT LABELS

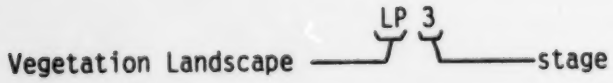
On the maps and in this booklet legend the following types of map unit symbols occur:

Vegetation Regions, Zones and Subzones



(the symbols within the circular labels are described in Section 4.1 and 4.2).

Vegetation Landscape Units



The stages include:

1 Severe Disturbance (pioneer seral);
2 Recent Disturbance;
2a Recent Disturbance with veteran Douglas-fir;
3 Young Seral or Young Climax (less than 60 years);
3a Young Seral or Young Climax with veteran Douglas-fir;
4 Maturing Seral (60-140 years);
4a Maturing Seral with veteran Douglas-fir;
5 Overmature Seral (greater than 140 years); and,
6 Maturing Climax (greater than 60 years).

The Vegetation Landscapes and Stages are described in Section 4.3.

CHAPTER THREE
WINTER FORAGE POTENTIAL FOR WILD UNGULATES

Each Vegetation Landscape is rated by stage for potential winter forage availability for mule deer, California bighorn sheep and moose in Section 4.3. The species used as forage have been determined from communication with wildlife biologists of the Fish and Wildlife Branch, British Columbia Ministry of Environment and Parks.

In the descriptions, Abundant forage is greater than 20 per cent crown cover, while Moderate forage is between 5 and 20 per cent crown cover. Ratings of arboreal lichens are relative to the study area.

CHAPTER FOUR
DESCRIPTIONS OF MAP UNIT LABELS

4.1 VEGETATION REGION AND SECTION

MAP SYMBOL	REGION	SECTION	DESCRIPTION
DI	Dry Interior Region (DI)		The Dry Interior Region is characterized by the occurrence of the Interior Rocky Mountain Douglas-fir zone. This Region is in the dry, warm, rain shadow of the Coastal Mountains.

4.2 VEGETATION ZONES AND SUBZONES

MAP SYMBOL	ZONE	SUBZONE	DESCRIPTION
DI / IBG	Interior Bunch Grass Zone (IBG)		This zone is characterized by climax communities dominated by bluebunch wheat grass with lesser amounts of big sagebrush, Sandberg's blue grass and prairie koeleria on mesic sites. This zone is subjected to droughty conditions (approximately 120 to 150 mm of growing season precipitation), low snowfall, hot summers and a relatively long freeze free period. Presently, much of this zone is dominated by big sagebrush. The rate of succession, compared to other zones, is generally very slow. The soils, under a good cover of grasses, generally have an increased amount of organic matter in the top layer (Chernozemic soils).

MAP SYMBOL	ZONE	SUBZONE	DESCRIPTION
	Interior Douglas-fir Zone (ID)		This zone is characterized by climax communities dominated by Douglas-fir, with an understory dominated by bluebunch wheat grass at lower elevations and soopolallie and pine grass at higher elevations, on mesic sites. This zone is subjected to moderate moisture conditions (approximately 140 to 200 mm of growing season precipitation), moderate snowfall, warm summers and a relatively long growing season. Presently, much of this zone is domin ated at low elevations, by open forests of ponderosa pine and bluebunch wheat grass, or at higher elevations, closed forests of lodgepole pine, paper birch, trembling aspen, Douglas-fir, soopolallie and pine grass. The rate of succession is slow to moderate. Four subzones occur in the study area.
		Ponderosa Pine Subzone (a)	This subzone is characterized by successional com munities dominated by ponderosa pine with an understory of bluebunch wheat grass. This subzone is subjected to less precipitation, less snowfall, a longer growing season and warmer temperatures than the other three subzones. On drier sites of this subzone at lower elevations, on southern exposures and sites with shallow soils, the vegetation tends to be similar to the Interior bunch grass zone. The soils are generally poorly developed (Brunisolic) due to limited precipitation. The rate of succession is relatively slow.
		Lodgepole Pine Subzone (b)	This subzone is characterized by successional communities dominated by lodgepole pine with an understory of soopolallie and pine grass. This subzone is subjected to moderate precipitation and generally has cooler temperatures than the Ponderosa pine Rocky Mountain juniper - Douglas-fir subzones. The soils frequently have a clay-enriched horizon (Luvisolic) that may improve mois ture and nutrient availability for plant growth. The rate of succession is moderate.
		Rocky Mountian Juniper - Douglas-fir (d)	This subzone is characterized by successional communities dominated by Douglas-fir with an understory of common snowberry and pine grass. This subzone is subjected to cooler temperatures than the Ponderosa pine subzone and warmer temperatures and less precipitation than the Lodgepole pine subzone. The soils are generally poorly developed (Brunisolic) due to limited precipitation. Ponderosa pine and lodgepole pine are rarely found. The rate of succession is relatively slow.

MAP SYMBOL	ZONE	SUBZONE	DESCRIPTION
	Interior Douglas-fir Zone (ID) (continued)	Paper birch - trembling aspen subzone (e)	This subzone is characterized by successional communities dominated by paper birch, trembling aspen and lodgepole pine with a shrub-rich understory of Rocky Mountain maple, common snowberry and Oregon boxwood, and abundant pine grass. This subzone is subjected to higher precipitation than the other subzones of the zone. The soils are moderately well developed (Brunisolic or Luvisolic). The rate of succession is relatively fast.
	Interior White Spruce Zone (IwS)		This zone is characterized by climax communities of white or hybrid spruce with an understory of dwarf blueberry, northern twinflower and moss. Successional communities are dominated by lodgepole pine, soopolallie and pine grass. This zone has moderate precipitation and rela tively cool temperatures. Soils are moderately leached (Luvisolic).
	Subalpine Engelmann Spruce - Alpine Fir Zone (SAeS-alF)		This zone is characterized by climax communities dominated by alpine fir and Engelmann spruce with an understory of grouseberry and common moss at lower elevations and black blueberry, white-flowered rhododendron and Pacific menziesia, and mosses at higher elevations on mesic sites. This zone has relatively high precipitation and cool temperatures compared to the other zones. Much of this zone, within the present study area, is dominated by closed forests of lodgepole pine at lower elevations and alpine fir and Engelmann spruce at higher elevations.
		Rocky Mountain Douglas-fir - Subzone (a)	This subzone is characterized by successional communities dominated by lodgepole pine and Rocky Mountain Douglas-fir, and an understory of pine grass, grouseberry, Oregon boxwood and arctic lupine. This subzone has higher precipitation, cooler temperatures and a shorter growing season than lower zones. The soils are relatively deeply leached (Humo-Ferric Podzols) but may have a clay enriched horizon (Podzolic Gray Luvisols) that improves moisture and nutrient availability. The rate of succession is relatively rapid.
		Lodgepole Pine Subzone (b)	This subzone is characterized by successional communities dominated by lodgepole pine, Engelmann spruce, alpine fir, white-flowered rhododendron, black blueberry, grouseberry and mosses. This subzone has to higher precipitation, cooler temperatures and a shorter growing season than the rest of the study area. The soils are relatively deeply leached (Humo-Ferric Podzols).

4.3 VEGETATION LANDSCAPES AND STAGES

4.3.1 Vegetation Landscapes of the Interior Bunch Grass Zone (IBG)

CD Black cottonwood - red-osier dogwood vegetation landscape							IBG
DESCRIPTION: floodplain areas along main rivers; periodic flooding; generally coarse-textured soils							
MAP SYMBOL			CD2	CD3	CD4	CD5	CD6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-dominated cover of: willows red-osier dogwood black cottonwood roses	broad-leaved forests of: black cottonwood willows red-osier dogwood roses	broad-leaved cover of: black cottonwood red-osier dogwood roses	broad-leaved cover of: black cottonwood red-osier dogwood roses	broad-leaved stands of: black cottonwood red-osier dogwood roses
	ASSOCIATES	-	common snowberry alder horsetails	common snowberry alder horsetails	willows common snowberry alder horsetails	willows common snowberry horsetails	willows common snowberry horsetails
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	willows black cottonwood red-osier dogwood roses	willows red-osier dogwood roses	red-osier dogwood roses	red-osier dogwood roses	red-osier dogwood roses
	MODERATE (5-20% cover)	-	Rocky Mountain maple common snowberry	Rocky Mountain maple common snowberry	willows Rocky Mountain maple common snowberry	willows Rocky Mountain maple common snowberry	willows common snowberry Rocky Mountain maple
COMMENTS:							

DF Douglas-fir - rough fescue vegetation landscape							IBG
DESCRIPTION: steep, northwest to east facing slopes; cool, moist sites							
MAP SYMBOL		DF1	DF2	DF3	DF4	DF5	DF6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-grass cover of: big sagebrush needle-and-thread grass drooping brome grass prairie sagebrush	persistent grassland of: bluebunch wheat grass prairie koeleria rough fescue	open stands of: ponderosa pine Douglas-fir bluebunch wheat grass rough fescue	open stands of: ponderosa pine Douglas-fir bluebunch wheat grass rough fescue	open to closed stands of: Douglas-fir ponderosa pine bluebunch wheat grass rough fescue mosses	open to closed stands of: Douglas-fir rough fescue bluebunch wheat grass moderate moss cover
	ASSOCIATES	bluebunch wheat grass pussytoes prairie koeleria	prairie sagebrush needle-and-thread grass	prairie koeleria prairie sagebrush	common snowberry	common snowberry	common snowberry
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush needle-and-thread grass	bluebunch wheat grass rough fescue	bluebunch wheat grass rough fescue	bluebunch wheat grass rough fescue	red-osier dogwood roses	red-osier dogwood roses
	MODERATE (5-20% cover)	bluebunch wheat grass prairie koeleria	prairie koeleria prairie sagebrush	prairie koeleria prairie sagebrush common saskatoon	common snowberry roses common saskatoon	common snowberry roses	common snowberry roses
COMMENTS: the severe disturbance stage occurs after severe grazing; rapid rate of succession for this zone							

NS Needle-and-thread grass - big sagebrush vegetation landscape				IBG
DESCRIPTION: generally found on areas with deep, coarse-textured soils of fluvial materials; drier than average sites due to rapid percolation of moisture; moisture deficits occur early in the growing season				
MAP SYMBOL		NS1	NS2	NS3
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-grass cover of: big sagebrush needle-and-thread grass	grassland dominated by: needle-and-thread grass bluebunch wheat grass	grassland dominated by: bluebunch wheat grass prairie koeleria
	ASSOCIATES	bluebunch wheat grass prickly-pear cactus drooping brome grass sand dropseed prairie sagebrush	sand dropseed prairie koeleria prairie sagebrush	big sagebrush needle-and-thread grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush	bluebunch wheat grass needle-and-thread grass	bluebunch wheat grass
	MODERATE (5-20% cover)	needle-and-thread grass prairie sagebrush prickly-pear cactus drooping brome grass bluebunch wheat grass	prairie sagebrush prairie koeleria	needle-and-thread grass prairie sagebrush prairie koeleria
COMMENTS: slow rate of recovery after disturbance; usually has increased organic material in the top layer of the soil, however this may be greatly depleted after severe disturbance; the severe disturbance stage is caused by severe grazing				

OW Shallow open water vegetation landscape complex					IBG
MAP SYMBOL: OW6 DESCRIPTION		DOMINANT TYPE permanent shallow standing water less than 2 m in depth	ASSOCIATED TYPE permanently or seasonally inundated areas with a mineral-rich substrate; sometimes on organic soils with high carbonate levels	ASSOCIATED TYPE mineral soils that are periodically saturated; alkaline soils	ASSOCIATED TYPE mineral soils that are periodically saturated; non-alkaline
VEGETATION	DOMINANTS	combinations of sub-merged and floating aquatic plants: yellow pond-lily pondweed bladderwort	marsh vegetation dominated by one of: common cattail bulrushes water sedge horsetails	alkaline meadow vegetation of: salt grass Pursh's sea-blite	non-alkaline meadow vegetation of: arctic rush sedges foxtail barley common silverweed
	ASSOCIATES	water-milfoil arrowhead water-plantain duckweed	-	alkali grass alkali cord grass foxtail barley	Kentucky blue grass dandelion
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-
	MODERATE (5-20% cover)	-	sedges	-	sedges Kentucky blue grass
COMMENTS: the associated types border the dominant type; any of the three associated types may be absent; at lower elevations the shallow water may be quite alkaline; ponds may provide summer food for moose; little winter forage available; willows, western birch, snowberry, roses or glandular birch may fringe the meadows					

RM Common rabbitbrush - bluebunch wheat grass vegetation landscape		IBG
DESCRIPTION: sparsely vegetated areas with shallow soils mixed with significant portions of bedrock; very low moisture availability because of rapid runoff and evaporation		
MAP SYMBOL		RM1
STAGE		CLIMAX
VEGETATION	DOMINANTS	sparse shrub cover of: common rabbitbrush prairie sagebrush bluebunch wheat grass
	ASSOCIATES	big sagebrush shrubby penstemon prickly-pear cactus drooping brome grass
POTENTIAL WINTER FORAGE FOR WILD INGULATES	ABUNDANT (above 20% cover)	-
	MODERATE (5-20% cover)	shrubby penstemon big sagebrush common rabbitbrush prairie sagebrush bluebunch wheat grass prickly-pear cactus
COMMENTS: variable landscape; rock outcrops are dominated by common selaginella, drooping brome grass, prickly-pear cactus and lichens		

SC Common saskatoon - choke cherry vegetation landscape		IBG
DESCRIPTION: sparsely vegetated areas with rubbly talus; rapid percolation of moisture through the rubble occurs so that moisture is not available at the soil surface but only at the rock surface below, where shrubs and trees may be rooted		
MAP SYMBOL		SC1
STAGE		CLIMAX
VEGETATION	DOMINANTS	shrub dominated cover of: common saskatoon choke cherry
	ASSOCIATES	Oregon-grape ponderosa pine roses bluebunch wheat grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	common saskatoon
	MODERATE (5-20% cover)	choke cherry Oregon-grape roses bluebunch wheat grass
COMMENTS: although the vegetation is considered to be pioneering these sites, it is a long term condition		

SS Big sagebrush - prairie sagebrush vegetation landscape				IBG
DESCRIPTION: generally found on areas with deep, finer-textured soils of lacustrine materials; drier than average sites much of the year as moisture percolates slowly, and readily evaporates from the soil surface although these soils have a good moisture holding capacity.				
MAP SYMBOL		SS1	SS2	SS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-grass cover of: big sagebrush drooping brome grass prairie sagebrush	grassland of: bluebunch wheat grass prairie koeleria prairie sagebrush	grassland of: bluebunch wheat grass prairie koeleria
	ASSOCIATES	needle-and-thread grass prairie koeleria bluebunch wheat grass	Sandberg's blue grass needle-and-thread grass	big sagebrush needle-and-thread grass prairie sagebrush
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush	bluebunch wheat grass	bluebunch wheat grass prairie koeleria
	MODERATE (5-20% cover)	prairie sagebrush prickly-pear cactus bluebunch wheat grass prairie koeleria drooping brome grass	prairie koeleria prairie sagebrush needle-and-thread grass	big sagebrush prairie sagebrush needle-and-thread grass
COMMENTS: slow rate of recovery after disturbance; the severe disturbance stage is caused by severe grazing				

TS Trembling aspen - common snowberry vegetation landscape							IBG
DESCRIPTION: gullied areas that receive moisture and nutrients from upslope; rich sites							
MAP SYMBOL			TS2	TS3	TS4	TS5	TS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-dominated cover of: common snowberry trembling aspen western meadow-rue Kentucky blue grass	broad-leaved forests of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	broad-leaved cover of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	mixed forests of: Douglas-fir trembling aspen common snowberry Rocky Mountain maple wild rye grass	closed forests of: Douglas-fir common snowberry Rocky Mountain maple wild rye grass
	ASSOCIATES	-	willows Rocky Mountain maple alder roses red-osier dogwood wild rye grass common dandelion	willows alder roses red-osier dogwood wild rye grass	willows common snowberry alder wild rye grass horsetails roses red-osier dogwood	willows common snowberry red-osier dogwood horsetails roses	willows common snowberry roses horsetails red-osier dogwood
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry Douglas-fir
	MODERATE (5-20% cover)	-	willows common snowberry Rocky Mountain maple roses red-osier dogwood choke cherry	Rocky Mountain maple common snowberry willows roses red-osier dogwood choke cherry	Rocky Mountain maple common saskatoon roses red-osier dogwood choke cherry	Rocky Mountain maple roses red-osier dogwood	Rocky Mountain maple roses red-osier dogwood
COMMENTS: this type is rarely found beyond the maturing seral stage							

WS Bluebunch wheat grass - big sagebrush vegetation landscape				IBG
DESCRIPTION: mesic (average) sites; usually on moderately sloping areas with deep, well-drained morainal or colluvial materials; moisture is available for plant growth from March to June, after which soil moisture deficits are severe and temperatures are generally high.				
MAP SYMBOL		WS1	WS2	WS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-grass cover of: big sagebrush needle-and-thread grass	grassland dominated by: bluebunch wheat grass prairie koeleria	grassland dominated by: bluebunch wheat grass prairie koeleria
	ASSOCIATES	prairie sagebrush prickly-pear cactus bluebunch wheat grass drooping brome grass low pussytoes	Sandberg's blue grass prairie sagebrush arrow-leaved balsamroot	Sandberg's blue grass big sagebrush
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush	bluebunch wheat grass	bluebunch wheat grass prairie koeleria
	MODERATE (5-20% cover)	prairie sagebrush prickly-pear cactus bluebunch wheat grass drooping brome grass needle-and-thread grass	prairie koeleria prairie sagebrush	big sagebrush
COMMENTS: has increased organic material in the top layer of the soil; the severe disturbance stage is caused by severe grazing				

AS Trembling aspen - white spruce vegetation landscape							IDa
DESCRIPTION: moist receiving sites generally subjected to cold air drainage which reduces evapotranspiration as compared to average sites; deep, well to moderately well drained soils							
MAP SYMBOL			AS2	AS3	AS4	AS5	AS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: common snowberry trembling aspen soopolallie pine grass cream-coloured peavine	broad-leaved forests of: trembling aspen common snowberry soopolallie pine grass cream-coloured peavine	mixed forests of: trembling aspen white spruce soopolallie pine grass cream-coloured peavine	mixed forests of: white spruce common snowberry common moss	closed forests of: white spruce common snowberry common moss
	ASSOCIATES	-	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	trembling aspen roses red-osier dogwood wild sarsaparilla northern twinflower	roses red-osier dogwood wild sarsaparilla northern twinflower
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	common snowberry trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry
	MODERATE (5-20% cover)	-	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry paper birch	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry
COMMENTS: rapid rate of succession; good forage production; western birch may be associated with these sites							

CD Black cottonwood - red-osier dogwood vegetation landscape							IDa
DESCRIPTION: floodplain areas along main rivers; periodic flooding; generally coarse-textured soils							
MAP SYMBOL			CD2	CD3	CD4	CD5	CD6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-dominated cover of: willows red-osier dogwood black cottonwood roses	broad-leaved forests of: black cottonwood willows red-osier dogwood roses	broad-leaved cover of: black cottonwood red-osier dogwood roses	broad-leaved cover of: black cottonwood red-osier dogwood roses	broad-leaved stands of: black cottonwood red-osier dogwood roses
	ASSOCIATES	-	common snowberry alder horsetails	common snowberry alder horsetails	willows common snowberry alder horsetails	willows common snowberry horsetails	willows common snowberry horsetails
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	willows black cottonwood red-osier dogwood roses	willows red-osier dogwood roses	red-osier dogwood roses	red-osier dogwood roses	red-osier dogwood roses
	MODERATE (5-20% cover)	-	Rocky Mountain maple common snowberry	Rocky Mountain maple common snowberry	willows Rocky Mountain maple common snowberry	willows Rocky Mountain maple common snowberry	willows common snowberry Rocky Mountain maple
COMMENTS: filbert may occur along the North Thompson River in the northern part of the study area							

OW Shallow open water vegetation landscape complex					10a
MAP SYMBOL: OW6 DESCRIPTION		DOMINANT TYPE permanent shallow standing water less than 2 m in depth	ASSOCIATED TYPE permanently or seasonally inundated areas with a mineral-rich substrate; sometimes on organic soils with high carbonate levels	ASSOCIATED TYPE mineral soils that are periodically saturated; alkaline soils	ASSOCIATED TYPE mineral soils that are periodically saturated; non-alkaline
VEGETATION	DOMINANTS	combinations of sub-merged and floating aquatic plants: yellow pond-lily pondweed bladderwort	marsh vegetation dominated by one of: common cattail bulrushes water sedge horsetails	alkaline meadow vegetation of: salt grass Pursh's sea-blite	non-alkaline meadow vegetation of: arctic rush sedges foxtail barley common silverweed
	ASSOCIATES	water-milfoil arrowhead water-plantain duckweed	-	alkali grass alkali cord grass foxtail barley	Kentucky blue grass dandelion
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-
	MODERATE (5-20% cover)	-	sedges	-	sedges Kentucky blue grass
COMMENTS: the associated types border the dominant type; any of the three associated types may be absent; at lower elevations the shallow water may be quite alkaline; ponds may provide summer food for moose; little winter forage available; willows, western birch, snowberry, roses or glandular birch may fringe the meadows					

PN Ponderosa pine - needle grass vegetation landscape							IDa
DESCRIPTION: coarse-textured fluvial soils, often terraces; droughty sites, rapid percolation of moisture							
MAP SYMBOL		PN1	PN2	PN3	PN4	PN5	PN6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub dominated cover of: big sagebrush needle-and-thread grass prairie sagebrush pussytoes	grassland of: needle-and-thread grass prairie sagebrush Sandberg's blue grass pussytoes	open forests of: ponderosa pine needle-and-thread grass pussytoes	open to closed forests of: ponderosa pine bluebunch wheat grass	open to closed forests of: ponderosa pine bluebunch wheat grass	open to closed forests of: Douglas-fir bluebunch wheat grass
	ASSOCIATES	common rabbitbrush prickly-pear cactus	bluebunch wheat grass prairie koeleria common rabbitbrush	common rabbitbrush bluebunch wheat grass Richardson's needle grass prairie koeleria	common rabbitbrush Richardson's needle grass needle-and-thread grass	Douglas-fir common rabbitbrush Richardson's needle grass	ponderosa pine common rabbitbrush
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush needle-and-thread grass	needle-and-thread grass	needle grasses		bluebunch wheat grass	bluebunch wheat grass
	MODERATE (5-20% cover)	prairie sagebrush pussytoes common rabbitbrush prickly-pear cactus	big sagebrush prairie sagebrush bluebunch wheat grass prairie koeleria pussytoes common rabbitbrush	saskatoon common rabbitbrush bluebunch wheat grass prairie koeleria pussytoes	saskatoon common rabbitbrush bluebunch wheat grass needle grasses pussytoes	common rabbitbrush needle grasses	common rabbitbrush needle grasses
COMMENTS: slow rate of succession for this subzone; the severe disturbance is cause by overgrazing							

PP Ponderosa pine - pine grass vegetation landscape IDa

DESCRIPTION: mesic (average) sites for upper areas of this subzone; generally found on deep soils of morainal, colluvial or lacustrine materials

MAP SYMBOL							
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-grass cover of: common saskatoon bluebunch wheat grass prairie koeleria	closed forests of: ponderosa pine common saskatoon bluebunch wheat grass	closed forests of: ponderosa pine Douglas-fir pine grass	closed forests of: Douglas-fir ponderosa pine pine grass	closed forests of: Douglas-fir pine grass
	ASSOCIATES	-	arrow-leaved balsamroot prairie sagebrush pussytoes Richardson's needle grass	Douglas-fir arrow-leaved balsamroot pine grass field locoweed kinnikinnick	soopolallie bluebunch wheat grass field locoweed kinnikinnick rough fescue	common snowberry birch-leaved spirea rough fescue	common snowberry birch-leaved spirea rough fescue
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	bluebunch wheat grass	Douglas-fir	Douglas-fir	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	-	Douglas-fir common saskatoon snowbush ceanothus kinnikinnick	Douglas-fir common saskatoon snowbush ceanothus roses kinnikinnick	bluebunch wheat grass rough fescue kinnikinnick roses common snowberry	roses common snowberry rough fescue	roses common snowberry rough fescue

COMMENTS: normal rate of succession for this subzone; snowbush ceanothus occurs only after fire; redstem ceanothus is sometimes found in the northeastern part of the study area

PR Ponderosa pine - common rabbitbrush vegetation landscape							IDa
DESCRIPTION: sites with shallow (less than 1 metre) morainal or colluvial material mixed with significant portions of rock outcrop; droughty sites with rapid runoff and high evapotranspiration							
MAP SYMBOL		PR1	PR2	PR3	PR4	PR5	PR6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	persistent shrub-forb cover of: common rabbitbrush common saskatoon prairie sagebrush	persistent shrub-grass cover of: common rabbitbrush common saskatoon bluebunch wheat grass yarrow	open forests of: ponderosa pine common rabbitbrush bluebunch wheat grass	open forests of: ponderosa pine common rabbitbrush bluebunch wheat grass	open forests of: ponderosa pine Douglas-fir common rabbitbrush bluebunch wheat grass	open to closed forests of: Douglas-fir common rabbitbrush bluebunch wheat grass
	ASSOCIATES	shrubby penstemon bluebunch wheat grass big sagebrush Pacific field wormwood drooping brome grass thistles	shrubby penstemon big sagebrush Pacific field wormwood drooping brome grass thistles prairie koeleria	big sagebrush shrubby penstemon common saskatoon prairie koeleria	shrubby penstemon common saskatoon	common saskatoon shrubby penstemon	ponderosa pine common saskatoon shrubby penstemon
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	common saskatoon prairie sagebrush	common rabbitbrush bluebunch wheat grass	common rabbitbrush bluebunch wheat grass	common rabbitbrush bluebunch wheat grass	Douglas-fir common rabbitbrush bluebunch wheat grass	Douglas-fir bluebunch wheat grass
	MODERATE (5-20% cover)	common saskatoon shrubby penstemon bluebunch wheat grass big sagebrush	prairie koeleria common saskatoon shrubby penstemon big sagebrush prairie sagebrush	common saskatoon prairie koeleria shrubby penstemon big sagebrush	common saskatoon shrubby penstemon Douglas-fir	common saskatoon	common rabbitbrush common saskatoon
COMMENTS: frequently found on southern exposures; the vegetation is valuable in preventing soil erosion; the rock outcrops are generally dominated by common selaginella, round-leaved alumroot, shrubby penstemon and lichens; very slow rate of succession							

PS Ponderosa pine - big sagebrush vegetation landscape							IDa
DESCRIPTION: mesic (average) to drier sites at lower elevations of this subzone; very droughty sites due to low precipitation and high evapotranspiration; generally found on deep soils of morainal, colluvial or lacustrine materials							
MAP SYMBOL		PS1	PS2	PS3	PS4	PS5	PS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	persistent shrub-grass cover of: big sagebrush needle-and-thread grass prairie sagebrush	persistent grass cover of: bluebunch wheat grass	open forests of: ponderosa pine bluebunch wheat grass	open forests of: ponderosa pine bluebunch wheat grass	open to closed forests of: ponderosa pine Douglas-fir bluebunch wheat grass	open to closed forests of: Douglas-fir bluebunch wheat grass
	ASSOCIATES	bluebunch wheat grass prickly-pear cactus	big sagebrush Sandberg's blue grass prairie koeleria needle-and-thread grass prairie sagebrush	Rocky Mountain juniper common rabbitbrush prairie koeleria big sagebrush	Rocky Mountain juniper common rabbitbrush prairie koeleria	Rocky Mountain juniper rough fescue	ponderosa pine rough fescue
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	big sagebrush needle-and-thread grass	bluebunch wheat grass	bluebunch wheat grass	bluebunch wheat grass	Douglas-fir bluebunch wheat grass	Douglas-fir bluebunch wheat grass
	MODERATE (5-20% cover)	common rabbitbrush prairie sagebrush bluebunch wheat grass prairie koeleria	prairie koeleria prairie sagebrush needle-and-thread grass	big sagebrush	Douglas-fir common rabbitbrush rough fescue prairie koeleria	common rabbitbrush rough fescue prairie koeleria	rough fescue prairie koeleria
COMMENTS: very slow rate of succession; the severe disturbance stage is caused by severe grazing							

PW Ponderosa pine - bluebunch wheat grass vegetation landscape IDa

DESCRIPTION: usually found on moderate to steeply sloped southern exposures, on deep, well drained soils of morainal and colluvial materials; middle to upper elevations of this subzone

MAP SYMBOL			PW2	PW3	PW4	PW5	PW6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-grass cover of: common saskatoon bluebunch wheat grass prairie koeleria	open to closed forests of: ponderosa pine bluebunch wheat grass common saskatoon kinnikinnick	open to closed forests of: ponderosa pine common saskatoon bluebunch wheat grass pine grass	open to closed forests of: ponderosa pine Douglas-fir pine grass	open to closed forests of: Douglas-fir pine grass
	ASSOCIATES	-	arrow-leaved balsamroot kinnikinnick	soopolallie arrow-leaved balsamroot field locoweed	Douglas-fir kinnikinnick arrow-leaved balsamroot soopolallie rough fescue	common snowberry rough fescue bluebunch wheat grass kinnikinnick	common snowberry bluebunch wheat grass rough fescue kinnikinnick
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	bluebunch wheat grass	bluebunch wheat grass	bluebunch wheat grass	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	-	common saskatoon common juniper snowbush ceanothus shrubby penstemon kinnikinnick	common saskatoon common juniper snowbush ceanothus roses kinnikinnick	Douglas-fir common juniper roses rough fescue kinnikinnick	roses rough fescue bluebunch wheat grass kinnikinnick	roses rough fescue bluebunch wheat grass kinnikinnick

COMMENTS: slow rate of succession for this subzone; snowbush ceanothus occurs only after fire; redstem ceanothus is sometimes found in the northeastern part of the study area

TS Trembling aspen - common snowberry vegetation landscape							IDa
DESCRIPTION: gullied areas that receive moisture and nutrients from upslope; rich sites							
MAP SYMBOL			TS2	TS3	TS4	TS5	TS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-dominated cover of: common snowberry trembling aspen western meadow-rue Kentucky blue grass	broad-leaved forests of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	broad-leaved cover of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	mixed forests of: Douglas-fir trembling aspen common snowberry Rocky Mountain maple wild rye grass	closed forests of: Douglas-fir common snowberry Rocky Mountain maple wild rye grass
	ASSOCIATES	-	willows Rocky Mountain maple alder roses red-osier dogwood wild rye grass common dandelion	willows alder roses red-osier dogwood wild rye grass	willows common snowberry alder red-osier dogwood horsetails wild rye grass	willows common snowberry red-osier dogwood horsetails	willows common snowberry red-osier dogwood horsetails
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry Douglas-fir
	MODERATE (5-20% cover)	-	willows common snowberry Rocky Mountain maple roses red-osier dogwood choke cherry	Rocky Mountain maple common snowberry willows roses red-osier dogwood choke cherry	Rocky Mountain maple common saskatoon roses red-osier dogwood choke cherry	Rocky Mountain maple roses red-osier dogwood	Rocky Mountain maple roses red-osier dogwood
COMMENTS: this type is rarely found beyond the maturing seral stage							

4.3.3 Vegetation Landscapes of the Interior Douglas-fir Zone: Lodgepole Pine Subzone (IDb)

AS Trembling aspen - white spruce vegetation landscape							IDb
DESCRIPTION: moist receiving sites generally subjected to cold air drainage which reduces evapotranspiration as compared to average sites; deep, well to moderately well drained soils							
MAP SYMBOL			AS2	AS3	AS4	AS5	AS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: common snowberry trembling aspen soopolallie pine grass cream-coloured peavine	broad-leaved forests of: trembling aspen common snowberry soopolallie pine grass cream-coloured peavine	mixed forests of: trembling aspen white spruce soopolallie pine grass cream-coloured peavine	mixed forests of: white spruce common snowberry common moss	closed forests of: white spruce common snowberry common moss
	ASSOCIATES	-	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	trembling aspen roses red-osier dogwood wild sarsaparilla northern twinflower	roses red-osier dogwood wild sarsaparilla northern twinflower
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	common snowberry trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry
	MODERATE (5-20% cover)	-	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry paper birch	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry
COMMENTS: rapid rate of succession; good forage production; western birch may be associated with these sites; western red cedar occurs in Jamieson Creek							

CS Black cottonwood - white spruce vegetation landscape							IDb
DESCRIPTION: floodplain areas along main creeks and rivers; periodic flooding; usually coarse-textured soils							
MAP SYMBOL			CS2	CS3	CS4	CS5	CS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub dominated cover of: willows red-osier dogwood horsetail	broad-leaved forests of: black cottonwood willows red-osier dogwood horsetails	mixed forests of: black cottonwood white spruce red-osier dogwood horsetails	mixed forests of: white spruce black cottonwood horsetails	closed forests of: white spruce red-osier dogwood
	ASSOCIATES	-	roses alder wild rye grass Kentucky blue grass	trembling aspen paper birch roses stinging nettle alders Kentucky blue grass wild rye grass	roses common snowberry stinging nettle alder Kentucky blue grass	roses common snowberry stinging nettle alder willows	common snowberry roses alder willows
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	red-osier dogwood willows black cottonwood	red-osier dogwood	red-osier dogwood	red-osier dogwood	red-osier dogwood
	MODERATE (5-20% cover)	-	trembling aspen paper birch horsetails roses Rocky Mountain maple filbert	willows horsetails roses Rocky Mountain maple filbert	roses common snowberry horsetails willows Rocky Mountain maple	roses common snowberry horsetails Rocky Mountain maple	roses common snowberry horsetails Rocky Mountain maple
COMMENTS: filbert is common on the North Thompson floodplain in the northern part of the study area							

DM Douglas-fir - moss vegetation landscape							IDb
DESCRIPTION: cool, moist, north to northeast facing slopes with low solar radiation; usually on steep slopes with deep soils of morainal or colluvial material							
MAP SYMBOL			DM2	DM3	DM4	DM5	DM6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	herb cover dominated by: pine grass fireweed mosses	closed forests of: Douglas-fir pine grass mosses	closed forests of: Douglas-fir continuous moss layer	N/A	closed forests of: Douglas-fir continuous moss layer
	ASSOCIATES	-	Rocky Mountain maple willow showy aster heart-leaved arnica	Rocky Mountain maple	Rocky Mountain maple birch-leaved spirea pine grass	-	Rocky Mountain maple birch-leaved spirea pine grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-		Douglas-fir	Douglas-fir	-	Douglas-fir
	MODERATE (5-20% cover)	-	Rocky Mountain maple willows	Rocky Mountain maple willows	Rocky Mountain maple	-	Rocky Mountain maple
COMMENTS: rapid rate of succession; low solar radiation limits shrub and herb presence while moisture availability allows for a continuous layer of mosses; lodgepole pine may occur in seral steges; spruce may occur, particularly at the base of slopes							

DW Douglas-fir - bluebunch wheat grass vegetation landscape IDb

DESCRIPTION: south to southwest facing, steep slopes with deep or shallow soils of colluvial and morainal material; may occur on ridges

MAP SYMBOL		DW1	DW2	DW3	DW4	DW5	DW6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	herb cover of: timber milk-vetch yarrow	shrub-grass cover of: common saskatoon soopolallie bluebunch wheat grass	open forests of: Douglas-fir soapolallie common saskatoon bluebunch wheat grass	open to closed forests of: Douglas-fir common saskatoon soapolallie pine grass	open to closed forests of: Douglas-fir pine grass	open to closed forests of: Douglas-fir pine grass
	ASSOCIATES	common saskatoon bluebunch wheat grass	roses showy aster yarrow timber milk-vetch kinnikinnick	lodgepole pine roses showy aster kinnikinnick	lodgepole pine rough fescue bluebunch wheat grass	lodgepole pine common snowberry birch-leaved spiree rough fescue	common snowberry birch-leaved spiree rough fescue
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	bluebunch wheat grass	Douglas-fir bluebunch wheat grass	Douglas-fir	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	common saskatoon	Douglas-fir common saskatoon snowbush ceanothus roses kinnikinnick	common saskatoon roses snowbush ceanothus kinnikinnick	bluebunch wheat grass roses common saskatoon rough fescue	common snowberry roses rough fescue	common snowberry roses rough fescue

COMMENTS: slow rate of succession for this subzone; often with a persistent shrub-grassland community after severe disturbances; ponderosa pine occurs infrequently; the severe disturbance stage occurs after severe grazing

LP Lodgepole pine - pine grass vegetation landscape IDb

DESCRIPTION: mesic (average) sites; generally found on deep, well drained soils of morainal, colluvial or fluvial materials; fairly good moisture availability although moisture deficits commonly occur in the summer

MAP SYMBOL		LP1	LP2	LP3	LP4	LP5	LP6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-herb cover of: trembling aspen pine grass common dandelion yarrow	shrub-herb cover of: soopolallie fireweed pine grass	closed forests of: lodgepole pine soopolallie roses pine grass kinnikinnick	closed forests of: lodgepole pine Douglas-fir soopolallie roses pine grass	closed forests of: lodgepole pine Douglas-fir soopolallie roses pine grass	closed forests of: Douglas-fir pine grass
	ASSOCIATES	willows thistles wild strawberry common timothy fireweed	American red raspberry common snowberry kinnikinnick yarrow great mullein	trembling aspen showy aster northern twinflower northwestern sedge heart-leaved arnica arctic lupine	showy aster northern twinflower kinnikinnick heart-leaved arnica arctic lupine	birch-leaved spirea showy aster northern twinflower kinnikinnick heart-leaved arnica	birch-leaved spirea roses common moss
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	Douglas-fir	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	willows	willows roses kinnikinnick common snowberry yarrow Oregon boxwood	Douglas-fir roses willows kinnikinnick	roses kinnikinnick	roses kinnikinnick	roses

COMMENTS: trembling aspen may dominate succession on sites with severe or repeated disturbance; normal rate of succession for this subzone; the severe disturbance stage is caused by grazing; Oregon boxwood may occur in northeastern parts of the study area

LS Lodgepole pine - spruce vegetation landscape							IDb
DESCRIPTION: low-lying, cool, moist sites on gently sloped areas which frequently have cold air pooling and increased moisture availability due to runoff; found on deep, well to moderately well drained soils of fluvial or moraines materials							
MAP SYMBOL			LS2	LS3	LS4	LS5	LS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: soopolallie fireweed pine grass dwarf blueberry	closed forests of: lodgepole pine soopolallie pine grass dwarf blueberry	closed forests of: lodgepole pine spruce soopolallie pine grass dwarf blueberry common moss	closed forests of: spruce lodgepole pine pine grass dwarf blueberry common moss	closed forests of: spruce dwarf blueberry common moss
	ASSOCIATES	-	willows roses northern twinflower kinnikinnick	spruce willows arctic lupine northern twinflower roses kinnikinnick	roses Canadian bunchberry northern twinflower showy aster kinnikinnick	Canadian bunchberry northern twinflower showy aster	pine grass Canadian bunchberry northern twinflower showy aster
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	dwarf blueberry	dwarf blueberry	dwarf blueberry	-	-
	MODERATE (5-20% cover)	-	roses kinnikinnick	roses kinnikinnick	roses kinnikinnick	dwarf blueberry	dwarf blueberry
COMMENTS: rapid rate of succession; low evapotranspiration; red-osier dogwood, high bush cranberry, common snowberry and western meadow-rue may sometimes occur in this landscape; the spruce is white or hybrid spruce (Engelmann X white)							

SW Swamp wetland vegetation landscape complex				IDb
MAP SYMBOL: SW6		DOMINANT TYPE	ASSOCIATED TYPE	ASSOCIATED TYPE
DESCRIPTION		periodic flooding; nearly permanent subsurface water flow through various proportions of mineral and organic material	seasonal inundated permanently saturated deep, organic soils	mineral soils that are periodically saturated; nutrient, rich soils; water table usually is below the rooting zone in the growing season
VEGETATION	DOMINANTS	tall shrub-herb cover of: willows water sedge interior small bedstraw	fen vegetation of: beaked sedge Drepanocladus spp.	meadow vegetation of: arctic rush sedges foxtail barley common silverweed
	ASSOCIATES	white spruce beaked sedge	water sedge	Kentucky blue grass dandelion
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	sedges	sedges	-
	MODERATE (5-20% cover)	-	-	sedges Kentucky blue grass
COMMENTS: the fen vegetation is not always present				

WF Wetland sedge fen vegetation landscape complex			IDb
MAP SYMBOL: WF6		DOMINANT TYPE	ASSOCIATED TYPE
DESCRIPTION		organic substrate often with mineral material within 1 metre of the surface; high water table; seasonally inundated; receives moisture and nutrients from upslope	organic substrate often with mineral material within 1 metre of the surface; high water table; seasonally inundated; receives moisture and nutrients from upslope
VEGETATION		sedge fen vegetation of: beaked sedge water sedge Drepanocladus spp.	shrub-sedge fen of: willows glandular birch beaked sedge water sedge Drepanocladus spp. Tomenthypnum spp. buckbean bluejoint small reed grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	sedges	willows glandular birch sedges
	MODERATE (5-20% cover)	-	-
COMMENTS: these sites are often surrounded by willows			

4.3.4 Vegetation Landscapes of the Interior Douglas-fir Zone: Rocky Mountain Juniper - Douglas-fir Subzone (IDd)

AS Trembling aspen - white spruce vegetation landscape						IDd
DESCRIPTION: moist receiving sites generally subjected to cold air drainage which reduces evapotranspiration as compared to average sites; deep, well to moderately well drained soils						
MAP SYMBOL			AS2	AS3	AS4	AS5	AS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: common snowberry trembling aspen soopolallie pine grass cream-coloured peavine	broad-leaved forests of: trembling aspen common snowberry soopolallie pine grass cream-coloured peavine	mixed forests of: trembling aspen white spruce soopolallie pine grass cream-coloured peavine	mixed forests of: white spruce common snowberry common moss	closed forests of: white spruce common snowberry common moss
	ASSOCIATES	-	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	willows red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	red-osier dogwood roses wild sarsaparilla northern twinflower western meadow-rue	trembling aspen roses red-osier dogwood wild sarsaparilla northern twinflower	roses red-osier dogwood wild sarsaparilla northern twinflower
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	common snowberry trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry
	MODERATE (5-20% cover)	-	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry paper birch	willows red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry	red-osier dogwood twinberry honeysuckle roses high bush cranberry
COMMENTS: rapid rate of succession; good forage production; western birch may be associated with these sites; Douglas-fir may occur in successional stages							

DM Douglas-fir - moss vegetation landscape IDd

DESCRIPTION: cool, moist, north to northeast facing slopes with low solar radiation; usually on steep slopes with deep soils of morainal or colluvial material

MAP SYMBOL			DM2	DM3	DM4	DM5	DM6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	herb cover dominated by: pine grass fireweed mosses	closed forests of: Douglas-fir pine grass mosses	closed forests of: Douglas-fir continuous moss layer	N/A	closed forests of: Douglas-fir continuous moss layer
	ASSOCIATES	-	Rocky Mountain maple willow showy aster heart-leaved arnica	Rocky Mountain maple	Rocky Mountain maple birch-leaved spirea pine grass	-	Rocky Mountain maple birch-leaved spirea pine grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-		Douglas-fir	Douglas-fir	-	Douglas-fir
	MODERATE (5-20% cover)	-	Rocky Mountain maple willows	Rocky Mountain maple willows	Rocky Mountain maple	-	Rocky Mountain maple

COMMENTS: rapid rate of succession; low solar radiation limits shrub and herb presence while moisture availability allows for a continuous layer of mosses

DP Douglas-fir - pine grass vegetation landscape							IDd
DESCRIPTION: mesic (average) sites; generally found on deep, well drained soils of morainal, colluvial or fluvial materials; fairly good moisture availability although moisture deficits commonly occur in the summer							
MAP SYMBOL		DP1	DP2	DP3	DP4	DP5	DP6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	timber milk-vetch pussytoes yarrow	roses pine grass kinnikinnick yarrow	closed forests of: Douglas-fir common snowberry pine grass	N/A	N/A	closed forests of: Douglas-fir common snowberry birch-leaved spirea pine grass
	ASSOCIATES	grasses	soopolallie bluebunch wheat grass arrow-leaved balsamroot	birch-leaved spirea soopolallie northwestern sedge arrow-leaved balsamroot kinnikinnick showy aster	-	-	roses rough fescue showy aster kinnikinnick common moss
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	Douglas-fir	-	-	Douglas-fir
	MODERATE (5-20% cover)	grasses	common saskatoon bluebunch wheat grass kinnikinnick roses	common snowberry roses kinnikinnick	-		roses common snowberry kinnikinnick
COMMENTS: normal rate of succession for this subzone; trembling aspen may occur in successional stages							

DW Douglas-fir - bluebunch wheat grass vegetation landscape							IDd
DESCRIPTION: usually south to southwest facing, steep slopes with deep or shallow soils of colluvial and morainal material; may occur on ridges							
MAP SYMBOL		DW1	DW2	DW3	DW4	DW5	DW6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	herb cover of: timber milk-vetch yarrow	shrub-grass cover of: common saskatoon soopolallie bluebunch wheat grass	open forests of: Douglas-fir soopolallie common saskatoon bluebunch wheat grass	ope to closed forests of: Douglas-fir common saskatoon soopolallie pine grass	open to closed forests of: Douglas-fir pine grass	open to closed forests of: Douglas-fir pine grass
	ASSOCIATES	common saskatoon bluebunch wheat grass	roses showy aster yarrow timber milk-vetch kinnikinnick	lodgepole pine roses showy aster kinnikinnick	lodgepole pine rough fescue bluebunch wheat grass	lodgepole pine common snowberry birch-leaved spirea rough fescue	common snowberry birch-leaved spirea rough fescue
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	bluebunch wheat grass	Douglas-fir bluebunch wheat grass	Douglas-fir	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	common saskatoon	Douglas-fir common saskatoon snowbush ceanothus roses kinnikinnick	common saskatoon roses snowbush ceanothus kinnikinnick	bluebunch wheat grass roses common saskatoon rough fescue	common snowberry roses rough fescue	common snowberry roses rough fescue
COMMENTS: slow rate of succession for this subzone; often with a persistent shrub-grassland community after severe disturbances; ponderosa pine occurs infrequently; the severe disturbance stage occurs after severe grazing							

OW Shallow open water vegetation landscape complex					IDd
MAP SYMBOL: OW6		DOMINANT TYPE	ASSOCIATED TYPE	ASSOCIATED TYPE	ASSOCIATED TYPE
DESCRIPTION		permanent shallow standing water less than 2 m in depth	permanently or seasonally inundated areas with a mineral-rich substrate; sometimes on organic soils with high carbonate levels	mineral soils that are periodically saturated; alkaline soils	mineral soils that are periodically saturated; non-alkaline
VEGETATION	DOMINANTS	combinations of submerged and floating aquatic plants: yellow pond-lily pondweed bladderwort	marsh vegetation dominated by one of: common cattail bulrushes sedges horsetails	alkaline meadow vegetation of: salt grass Pursh's sea-blite	non-alkaline meadow vegetation of: arctic rush sedges foxtail barley common silverweed
	ASSOCIATES	water-milfoil arrowhead water-plantain duckweed	-	alkali cord grass foxtail barley	Kentucky blue grass dandelion
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-
	MODERATE (5-20% cover)	-	sedges	-	sedges Kentucky blue grass
COMMENTS: the associated types border the dominant type; any of the three associated types may be absent; at lower elevations the shallow water may be quite alkaline; ponds may provide summer food for moose; little winter forage available; willows, western birch, snowberry, roses or glandular birch may fringe the meadows					

TS Trembling aspen - common snowberry vegetation landscape							IDd
DESCRIPTION: gullied areas that receive moisture and nutrients from upslope; rich sites							
MAP SYMBOL			TS2	TS3	TS4	TS5	TS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-dominated cover of: common snowberry trembling aspen western meadow-rue Kentucky blue grass	broad-leaved forests of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	broad-leaved cover of: trembling aspen common snowberry Rocky Mountain maple common saskatoon western meadow-rue Kentucky blue grass	mixed forests of: Douglas-fir trembling aspen common snowberry Rocky Mountain maple wild rye grass	closed forests of: Douglas-fir common snowberry Rocky Mountain maple wild rye grass
	ASSOCIATES	-	willows Rocky Mountain maple alder roses red-osier dogwood wild rye grass common dandelion	willows alder roses red-osier dogwood	willows common snowberry alder red-osier dogwood horsetails wild rye grass	willows common snowberry red-osier dogwood horsetails	willows common snowberry red-osier dogwood horsetails
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	trembling aspen	common snowberry	common snowberry	common snowberry	common snowberry Douglas-fir
	MODERATE (5-20% cover)	-	willows common snowberry Rocky Mountain maple roses red-osier dogwood choke cherry	Rocky Mountain maple common snowberry willows roses red-osier dogwood choke cherry	Rocky Mountain maple common saskatoon roses red-osier dogwood choke cherry	Rocky Mountain maple roses red-osier dogwood	Rocky Mountain maple roses red-osier dogwood
COMMENTS: this type is found beyond the maturing seral stage							

WN Bluebunch wheat grass - needle grass vegetation landscape							IDd
DESCRIPTION: gentle sloped areas; usually found on deep, well drained soils of morainal or fluvial material; very droughty, hot sites							
MAP SYMBOL		WN1	WN2	WN3	WN4	WN5	WN6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	grass-forb cover of: needle grasses pussytoes prairie sagebrush Kentucky blue grass Sandberg's blue grass drooping brome grass	persistent grassland of: bluebunch wheat grass rough fescue prairie koeleria	open to closed stands of: Douglas-fir bluebunch wheat grass rough fescue prairie koeleria	N/A	N/A	open to closed forests of: Douglas-fir common snowberry pine grass rough fescue
	ASSOCIATES	common rabbitbrush fleabane yarrow dandelion silky lupine grasses bluebunch wheat grass	common rabbitbrush pussytoes Kentucky blue grass Sandberg's blue grass arrow-leaved balsamroot prairie sagebrush	ponderosa pine lodgepole pine arrow-leaved balsamroot kinnikinnick	-	-	roses bluebunch wheat grass kinnikinnick
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	prairie sagebrush	bluebunch wheat grass rough fescue	bluebunch wheat grass rough fescue	-	-	-
	MODERATE (5-20% cover)	roses bluebunch wheat grass	roses prairie koeleria prairie sagebrush	roses kinnikinnick	-	-	common snowberry roses kinnikinnick rough fescue bluebunch wheat grass
COMMENTS: the severe disturbance stage is caused by intensive grazing; rough fescue is more common at higher elevations of this landscape; this landscape is rarely found beyond the WN2 stage, which is a long-term stage; it is speculated that these areas have the potential to develop forests; severe grazing and the resulting lack of cover may inhibit tree establishment; the present state may have developed after fires and long-term, severe grazing; this landscape may have minor components of saline soils and associated vegetation							

4.3.5 Vegetation Landscapes of the Interior Douglas-fir Zone: Paper Birch - Trembling Aspen Subzone (IDa)

BS Paper birch - common snowberry vegetation landscape							IDa
DESCRIPTION: mesic (average) sites; found on deep, well to moderately well drained soils of colluvial or morainal materials							
MAP SYMBOL			BS2	BS3	BS4	BS5	BS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub dominated cover of: Rocky Mountain maple common snowberry paper birch trembling aspen pine grass heart-leaved arnica fireweed	broad-leaved forests of: paper birch trembling aspen Rocky Mountain maple common snowberry pine grass showy aster heart-leaved arnica	mixed forests of: paper birch trembling aspen Douglas-fir Rocky Mountain maple common snowberry pine grass showy aster heart-leaved arnica	mixed forests of: Douglas-fir Rocky Mountain maple common snowberry pine grass showy aster heart-leaved arnica	closed forests of: Douglas-fir Rocky Mountain maple common snowberry pine grass showy aster heart-leaved arnica mosses
	ASSOCIATES	-	willows common saskatoon Oregon boxwood showy aster northern twinflower	lodgepole pine Oregon boxwood common saskatoon northern twinflower wild sarsaparilla	lodgepole pine Oregon boxwood northern twinflower birch-leaved spirea wild sarsaparilla mosses	paper birch Oregon boxwood birch-leaved spirea northern twinflower wild sarsaparilla	Oregon boxwood birch-leaved spirea northern twinflower wild sarsaparilla
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	paper birch trembling aspen	-	-	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	-	willows common saskatoon roses Rocky Mountain maple Oregon boxwood	willows common saskatoon Rocky Mountain maple Oregon-grape Oregon boxwood common snowberry roses	Douglas-fir Rocky Mountain maple Oregon-grape Oregon boxwood common snowberry roses	Rocky Mountain maple Oregon boxwood common snowberry arboreal lichens	Rocky Mountain maple Oregon boxwood common snowberry arboreal lichens
COMMENTS: spruce may occur in this landscape, particularly in valley bottoms; good forage production in early stages							

CB Western red cedar - Oregon boxwood vegetation landscape							IDe
DESCRIPTION: north facing slopes in lower slope position; rich nutrient and moisture availability; deep, moderately well to imperfectly drained soils							
MAP SYMBOL			CB2	CB3	CB4	CB5	CB6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub dominated cover of: western thimbleberry black swamp gooseberry five-leaved creeping raspberry fireweed	closed forests of: Douglas-fir lodgepole pine	closed forests of: Douglas-fir lodgepole pine western red cedar five-leaved creeping raspberry	closed forests of: western red cedar Oregon boxwood five-leaved creeping raspberry	closed forests of: western red cedar Oregon boxwood five-leaved creeping raspberry mosses
	ASSOCIATES	-	birch-leaved spirea Oregon boxwood heart-leaved arnica blue-bead clintonia	spruce western red cedar birch-leaved spirea heart-leaved arnica blue-bead clintonia	spruce birch-leaved spirea heart-leaved arnica blue-bead clintonia	Douglas-fir lodgepole pine spruce birch-leaved spirea heart-leaved arnica blue-bead clintonia	birch-leaved spirea heart-leaved arnica blue-bead clintonia
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	-	-
	MODERATE (5-20% cover)	-	Rocky Mountain maple alder	alpine fir twinberry honeysuckle	twinberry honeysuckle mountain-ash	twinberry honeysuckle mountain-ash	twinberry honeysuckle mountain-ash
COMMENTS: the understory in later stages may be quite sparse; rapid rate of succession							

CS Black cottonwood - white spruce vegetation landscape IDe

DESCRIPTION: floodplain areas along main creeks and rivers; periodic flooding; usually coarse-textured soils

MAP SYMBOL			CS2	CS3	CS4	CS5	CS6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub dominated cover of: willows red-osier dogwood horsetail	broad-leaved forests of: black cottonwood willows red-osier dogwood horsetails	mixed forests of: black cottonwood white spruce red-osier dogwood horsetails	mixed forests of: white spruce black cottonwood horsetails	closed forests of: white spruce red-osier dogwood
	ASSOCIATES	-	roses alder wild rye grass Kentucky blue grass	trembling aspen paper birch roses stinging nettle alders Kentucky blue grass wild rye grass	roses common snowberry stinging nettle alder Kentucky blue grass	roses common snowberry stinging nettle alder willows	common snowberry roses alder willows
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	red-osier dogwood willows black cottonwood	red-osier dogwood	red-osier dogwood	red-osier dogwood	red-osier dogwood
	MODERATE (5-20% cover)	-	trembling aspen paper birch horsetails roses Rocky Mountain maple filbert	willows horsetails roses Rocky Mountain maple filbert	roses common snowberry horsetails willows Rocky Mountain maple	roses common snowberry horsetails Rocky Mountain maple	roses common snowberry horsetails Rocky Mountain maple

COMMENTS: filbert is common on the North Thompson floodplain in the northern part of the study area

DW Douglas-fir - bluebunch wheat grass vegetation landscape IDe

DESCRIPTION: south to southwest facing, steep slopes with deep or shallow soils of colluvial and morainal material

MAP SYMBOL		DW1	DW2	DW3	DW4	DW5	DW6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	herb cover of: timber milk-vetch yarrow	shrub-grass cover of: common saskatoon soopolallie bluebunch wheat grass	open forests of: Douglas-fir soopolallie common saskatoon bluebunch wheat grass	open to closed forests of: Douglas-fir common saskatoon soopolallie pine grass	open to closed forests of: Douglas-fir pine grass	open to closed forests of: Douglas-fir pine grass
	ASSOCIATES	common saskatoon bluebunch wheat grass	roses showy aster yarrow timber milk-vetch kinnikinnick pine grass	lodgepole pine roses showy aster kinnikinnick pine grass	lodgepole pine	lodgepole pine common snowberry birch-leaved spirea	common snowberry birch-leaved spirea
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	bluebunch wheat grass	Douglas-fir bluebunch wheat grass	Douglas-fir	Douglas-fir	Douglas-fir
	MODERATE (5-20% cover)	common saskatoon	Douglas-fir common saskatoon snowbush ceanothus red-stem ceanothus roses kinnikinnick	common saskatoon roses snowbush ceanothus kinnikinnick	bluebunch wheat grass roses common saskatoon	common snowberry roses	common snowberry roses

COMMENTS: slow rate of succession for this subzone; often with a persistent shrub-grassland community after severe disturbances; ponderosa pine occurs infrequently; the severe disturbance stage occurs after severe grazing; trembling aspen may occur in early stages; ceanothus only occurs after fire

4.3.6 Vegetation Landscapes of the Interior White Spruce Zone (IwS)

LB Lodgepole pine - dwarf blueberry vegetation landscape							IwS
DESCRIPTION: mesic (average) sites; found on deep, well to moderately well drained soils of colluvial or morainal material; generally found on gentle terrain							
MAP SYMBOL			LB2	LB3	LB4	LB5	LB6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: soopolallie fireweed pine grass northern twinflower	closed forests of: lodgepole pine white spruce soopolallie pine grass northern twinflower dwarf blueberry	closed forests of: lodgepole pine white spruce soopolallie pine grass northern twinflower dwarf blueberry	closed forests of: white spruce lodgepole pine dwarf blueberry northern twinflower	closed forests of: white spruce dwarf blueberry northern twinflower common moss
	ASSOCIATES	-	kinnikinnick timber milk-vetch wild strawberry	birch-leaved spirea roses kinnikinnick timber milk-vetch showy aster heart-leaved arnica	birch-leaved spirea roses kinnikinnick northern red-fruited comandra heart-leaved arnica common moss	birch-leaved spirea northern red-fruited comandra showy aster heart-leaved arnica	birch-leaved spirea northern red-fruited comandra pine grass showy aster heart-leaved arnica
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	-	-
	MODERATE (5-20% cover)	-	willows roses	roses	roses	-	-
COMMENTS: Douglas-fir is common on hummocks; trembling aspen may occur in early stages							

LJ Lodgepole pine - common juniper vegetation landscape							
DESCRIPTION: steep, southeast to west facing slopes and ridges; deep to shallow, well to rapidly drained soils of colluvial or morainal materials; high amounts of solar radiation; moisture deficits in summer; may include rock outcrops							
MAP SYMBOL		LJ1	LJ2	LJ3	LJ4	LJ5	LJ6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	shrub-herb cover of: saskatoon soopolallie kinnikinnick common selaginella	shrub-herb cover of: saskatoon fireweed pine grass	open forests of: lodgepole pine Douglas-fir common juniper saskatoon pine grass	open to closed forests of: lodgepole pine Douglas-fir common juniper birch-leaved spirea pine grass	closed forests of: white spruce birch-leaved spirea northern twinflower moderate cover of moss	closed forests of: white spruce or dwarf blueberry birch-leaved spirea northern twinflower moderate cover of moss
	ASSOCIATES	roses grasses lichens	roses kinnikinnick	roses soopolallie kinnikinnick	white spruce roses kinnikinnick	pine grass	pine grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	Douglas-fir	-
	MODERATE (5-20% cover)	saskatoon roses kinnikinnick	saskatoon roses kinnikinnick	common juniper saskatoon roses kinnikinnick	common juniper roses kinnikinnick	-	Douglas-fir
COMMENTS: slow rate of succession; moderate forage production in early stages; Douglas-fir may form edaphic climax on droughty sites; these sites may be sensitive to severe disturbance							

LK Lodgepole pine - kinnikinnick vegetation landscape							lwS
DESCRIPTION: coarse-textured soils of fluvial terraces; gently sloped areas; rapidly drained, nutrient poor soils							
MAP SYMBOL			LJ2	LJ3	LJ4	LJ5	LJ6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: soopolallie fireweed kinnikinnick	open forests of: lodgepole pine soopolallie kinnikinnick pine grass lichens	open to closed forests of: lodgepole pine soopolallie common juniper pine grass dwarf blueberry northern twinflower	closed forests of: lodgepole pine white spruce northern twinflower dwarf blueberry moderate cover of moss	closed forests of: white spruce or northern twinflower dwarf blueberry moderate cover of moss
	ASSOCIATES	-	pine grass	common juniper kinnikinnick	common juniper kinnikinnick	pine grass	pine grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	kinnikinnick	-	-	-
	MODERATE (5-20% cover)	-	kinnikinnick roses	common juniper roses dwarf blueberry	common juniper roses dwarf blueberry	kinnikinnick dwarf blueberry	dwarf blueberry
COMMENTS: litter layers and humus are valuable for nutrient cycling and retention of moisture; slow rate of succession; low forage production; white spruce is slow to regenerate because of a history of repeated fires; sensitive to severe disturbance							

ST White spruce - twinberry honeysuckle vegetation landscape							lwS
DESCRIPTION: moist, cool sites in valley bottoms; deep, rich, moderately well to imperfectly drained soils; subject to cold air drainage which lowers evapotranspiration; sites receive moisture and nutrients from upslope							
MAP SYMBOL			ST2	ST3	ST4	ST5	ST6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: willows fireweed pine grass western meadow-rue	closed forests of: lodgepole pine white spruce twinberry honeysuckle western meadow-rue heart-leaved arnica northern twinflower mosses	closed forests of: lodgepole pine white spruce twinberry honeysuckle western meadow-rue heart-leaved arnica mosses	closed forests of: white spruce twinberry honeysuckle western meadow-rue Canadian bunchberry heart-leaved arnica mosses	dense forests of: white spruce twinberry honeysuckle Canadian bunchberry western meadow-rue
	ASSOCIATES	-	black swamp gooseberry alder heart-leaved arnica	trembling aspen willows black swamp gooseberry northern twinflower	trembling aspen black swamp gooseberry northern twinflower	lodgepole pine black swamp gooseberry northern twinflower	black swamp gooseberry northern twinflower heart-leaved arnica
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	willows	-	-	-	-
	MODERATE (5-20% cover)	-	trembling aspen	willows twinberry honeysuckle	twinberry honeysuckle	twinberry honeysuckle	twinberry honeysuckle
COMMENTS: horsetails and palmate coltsfoot may be common, particularly on wetter sites; pine grass may be common; pioneer stage may have dense willow production							

WF Wetland sedge fen vegetation landscape complex				lwS
MAP SYMBOL: WF6		DOMINANT TYPE	ASSOCIATED TYPE	
DESCRIPTION		organic substrate often with mineral material within 1 metre of the surface; high water table; seasonally inundated; receives moisture and nutrients from upslope	organic substrate often with mineral material within 1 metre of the surface; high water table; seasonally inundated; receives moisture and nutrients from upslope	
VEGETATION		sedge fen vegetation of: beaked sedge water sedge Drepanocladus spp.	shrub-sedge fen of: willows glandular birch beaked sedge water sedge Drepanocladus spp. Tomenthypnum spp. buckbean bluejoint small reed grass	
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	sedges	willows glandular birch sedges	
	MODERATE (5-20% cover)	-	-	
COMMENTS: these sites are often surrounded by willows				

4.3.7 Vegetation Landscapes of the Subalpine Engelmann Spruce - Alpine Fir Zone: Douglas-fir - Lodgepole Pine Subzone (SAeS-alFa)

FD Alpine fir - red-osier dogwood vegetation landscape							SAeS-alFa
DESCRIPTION: areas that receive seepage from upslope; moderately well to imperfectly drained soils							
MAP SYMBOL			FD2	FD3	FD4	FD5	FD6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub dominated cover of: willows alder red-osier dogwood fireweed western meadow-rue Canadian bunchberry	closed forests of: Engelmann spruce Douglas-fir willows alder red-osier dogwood western meadow-rue Canadian bunchberry	closed forests of: Engelmann spruce Douglas-fir alpine fir alder red-osier dogwood western meadow-rue Canadian bunchberry	closed forests of: Engelmann spruce alpine fir red-osier dogwood Canadian bunchberry mosses	closed forests of: Engelmann spruce alpine fir red-osier dogwood Canadian bunchberry mosses
	ASSOCIATES	-	Oregon boxwood devil's-club northern twinflower	alpine fir devil's-club false Solomon's-seal Oregon boxwood blue-bead clintonia northern twinflower	devil's-club Oregon boxwood blue-bead clintonia northern twinflower	Douglas-fir devil's-club Oregon boxwood blue-bead clintonia northern twinflower	devil's-club Oregon boxwood blue-bead clintonia northern twinflower
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	willows	willows	alpine fir	alpine fir	alpine fir
	MODERATE (5-20% cover)	-	red-osier dogwood Oregon boxwood black blueberry	red-osier dogwood Oregon boxwood high bush cranberry alpine fir black blueberry	red-osier dogwood Oregon boxwood high bush cranberry black blueberry	red-osier dogwood Oregon boxwood high bush cranberry black blueberry	red-osier dogwood Oregon boxwood high bush cranberry black blueberry
COMMENTS: after severe disturbance these sites are probably dominated by dense thickets of willows and alder							

LD Lodgepole pine - Douglas-fir vegetation landscape SAeS-alFa

DESCRIPTION: generally on droughty, southeast to southwest facing slopes; shallow or deep soils of colluvial or morainal materials; may be found on dry knolls

MAP SYMBOL			LD2	LD3	LD4	LD5	LD6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: soopolallie fireweed pine grass kinnikinnick	open to closed forests of: lodgepole pine Douglas-fir soopolallie pine grass kinnikinnick dwarf blueberry	closed forests of: lodgepole pine Douglas-fir common juniper pine grass dwarf blueberry grouseberry	closed forests of: Engelmann spruce alpine fir dwarf blueberry grouseberry common moss	closed forests of: Engelmann spruce alpine fir dwarf blueberry grouseberry common moss
	ASSOCIATES	-	roses common juniper heart-leaved arnica wild strawberry yarrow pussytoes	soopolallie roses common juniper heart-leaved arnica	alpine fir Engelmann spruce soopolallie kinnikinnick heart-leaved arnica common moss	lodgepole pine Douglas-fir pine grass	pine grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	alpine fir	alpine fir
	MODERATE (5-20% cover)	-	roses kinnikinnick common saskatoon	Douglas-fir common juniper roses kinnikinnick	Douglas-fir dwarf blueberry common juniper roses alpine fir	Douglas-fir dwarf blueberry arboreal lichens	dwarf blueberry arboreal lichens

COMMENTS: slow rate of succession for this subzone due to drier conditions; extremely warm, dry sites; may have an edaphic climax of Douglas-fir

LG Lodgepole pine - grouseberry vegetation landscape SAeS-alFa

DESCRIPTION: mesic (average) sites; found on deep, well to moderately well drained soils of colluvial or morainal material; generally found on gentle terrain

MAP SYMBOL			LG2	LG3	LG4	LG5	LG6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: alder fireweed pine grass heart-leaved arnica	closed forests of: lodgepole pine alder soopolallie pine grass northern twinflower heart-leaved arnica	closed forests of: lodgepole pine soopolallie pine grass northern twinflower common moss	closed forests of: Engelmann spruce lodgepole pine alpine fir northern twinflower dwarf blueberry common moss	closed forests of: Engelmann spruce alpine fir northern twinflower dwarf blueberry common moss
	ASSOCIATES	-	American red raspberry alder willows western thimbleberry arctic lupine Oregon boxwood wild strawberry	Oregon boxwood grouseberry arctic lupine Canadian bunchberry dwarf blueberry western meadow-rue	alpine fir Engelmann spruce Oregon boxwood grouseberry dwarf blueberry Canadian bunchberry arctic lupine	Oregon boxwood Canadian bunchberry arctic lupine grousberry	Oregon boxwood Canadian bunchberry grouseberry
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	alpine fir	alpine fir
	MODERATE (5-20% cover)	-	willows Oregon boxwood mountain-ash roses dwarf blueberry black blueberry	willows roses mountain-ash Oregeon-grape Oregon boxwood grouseberry dwarf blueberry black blueberry	mountain-ash roses arboreal lichens alpine fir black blueberry Oregon boxwood	arboreal lichens black blueberry mountain-ash Oregon boxwood	arboreal lichens black blueberry mountain-ash Oregon boxwood

COMMENTS: normal rate of succession for this subzone; good moisture availability; grouseberry may be uncommon in eastern areas

SB Sedges - glandular birch vegetation landscape		SAaS-alFa
DESCRIPTION: organic deposits with poorly drained soils; depressional areas sometimes with mineral soil underlying a veneer of organic material		
MAP SYMBOL		SB6
STAGE		CLIMAX
VEGETATION	DOMINANTS	sedges glandular birch
	ASSOCIATES	willows bluejoint small reed grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	sedges
	MODERATE (5-20% cover)	glandular birch willows
COMMENTS: willows may surround these sites		

4.3.8 Vegetation Landscapes of the Subalpine Engelmann Spruce - Alpine Fir Zone: Lodgepole Pine Subzone (SAeS-alFb)

FG Alpine fir - grouseberry vegetation landscape						SAeS-alFb
DESCRIPTION: shallow soils of colluvial or morainal materials; may be found on ridges; droughty sites						
MAP SYMBOL			FG2	FG3	FG4	FG5	FG6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: alder willows black blueberry fireweed grouseberry arctic lupine	open to closed forests of: lodgepole pine black blueberry grouseberry	open to closed forests of: lodgepole pine Engelmann spruce black blueberry grouseberry moderate moss	open to closed forests of: Engelmann spruce alpine fir black blueberry grouseberry moderate moss	open to closed forests of: alpine fir Engelmann spruce black blueberry grouseberry moderate moss
	ASSOCIATES	-	heart-leaved arnica	alpine fir Engelmann spruce willows heart-leaved arnica arctic lupine	alpine fir heart-leaved arnica few-flowered winter-green	lodgepole pine few-flowered winter-green heart-leaved arnica	few-flowered wintergreen heart-leaved arnica
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	-	-
	MODERATE (5-20% cover)	-	black blueberry willows grouseberry	willows black blueberry	black blueberry	black blueberry	black blueberry
COMMENTS: vegetation is valuable to prevent erosion on these sites; common juniper may occur on southern exposures; succession is slow, particularly on southern exposures							

FR Alpine fir - white-flowered rhododendron vegetation landscape							SAaS-alFb
DESCRIPTION: mesic (average) sites; found on deep, well to moderately well drained soils of colluvial, morainal or fluvial material							
MAP SYMBOL			FR2	FR3	FR4	FR5	FR6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: alder white-flowered rhododendron black swamp gooseberry fireweed Sitka valerian heart-leaved arnica	closed forests of: alpine fir Engelmann spruce alder white-flowered rhododendron black blueberry Sitka valerian	closed forests of: alpine fir Engelmann spruce white-flowered rhododendron black blueberry grouseberry northern twinflower mosses	closed forests of: alpine fir Engelmann spruce white-flowered rhododendron black blueberry grouseberry northern twinflower mosses	closed forests of: alpine fir Engelmann spruce white-flowered rhododendron black blueberry grouseberry northern twinflower mosses
	ASSOCIATES	-	willows black blueberry northern twinflower Canadian bunchberry	lodgepole pine black swamp gooseberry grouseberry blue-bead clintonia heart-leaved arnica northern twinflower Canadian bunchberry	lodgepole pine black swamp gooseberry Sitka valerian blue-bead clintonia heart-leaved arnica Canadian bunchberry	lodgepole pine Sitka valerian blue-bead clintonia heart-leaved arnica Canadian bunchberry	black swamp gooseberry Sitka valerian blue-bead clintonia heart-leaved arnica Canadian bunchberry
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	alpine fir	alpine fir	alpine fir
	MODERATE (5-20% cover)	-	willows twinberry honeysuckle black blueberry mountain-ash	alpine fir black blueberry twinberry honeysuckle mountain-ash high bush cranberry	black blueberry twinberry honeysuckle mountain-ash high bush cranberry	black blueberry twinberry honeysuckle mountain-ash high bush cranberry	black blueberry high bush cranberry mountain-ash twinberry honeysuckle
COMMENTS:							

FT Alpine fir - glandular-leaved Labrador tea vegetation landscape							SAeS-alFb
DESCRIPTION: deep, moderately well to imperfectly drained soils, usually of morainal materials; often fine-textured soils							
MAP SYMBOL			FT2	FT3	FT4	FT5	FT6
STAGE		SEVERE DISTURBANCE	AVERAGE DISTURBANCE	YOUNG SERAL OR YOUNG CLIMAX	MATURING SERAL	OVERMATURE SERAL	CLIMAX
SUCCESSIONAL TRENDS	DOMINANTS	unknown	shrub-herb cover of: glandular-leaved Labrador tea fireweed grouseberry Canadian bunchberry	closed forests of: lodgepole pine glandular-leaved Labrador tea grouseberry Canadian bunchberry mosses	closed forests of: lodgepole pine glandular-leaved Labrador tea grouseberry Canadian bunchberry mosses	closed forests of: alpine fir Engelmann spruce glandular-leaved Labrador tea grouseberry Canadian bunchberry mosses	closed forests of: alpine fir Engelmann spruce glandular-leaved Labrador tea grouseberry Canadian bunchberry mosses
	ASSOCIATES	-	alder heart-leaved arnica five-leaved creeping raspberry	alpine fir Engelmann spruce heart-leaved arnica five-leaved creeping raspberry	alpine fir Engelmann spruce heart-leaved arnica five-leaved creeping raspberry	lodgepole pine heart-leaved arnica five-leaved creeping raspberry	heart-leaved arnica five-leaved creeping raspberry
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	-	-	-	-	-	-
	MODERATE (5-20% cover)	-	-		arboreal lichens	arboreal lichens	arboreal lichens
COMMENTS: slightly wetter than the FR vegetation landscape; white-flowered rhododendron is rare							

SB Sedges - glandular birch vegetation landscape		SAeS-alFb
DESCRIPTION: organic deposits with poorly drained soils; depressional areas sometimes with mineral soil underlying a veneer of organic material		
MAP SYMBOL		SB6
STAGE		CLIMAX
VEGETATION	DOMINANTS	sedges glandular birch
	ASSOCIATES	willows bluejoint small reed grass
POTENTIAL WINTER FORAGE FOR WILD UNGULATES	ABUNDANT (above 20% cover)	sedges
	MODERATE (5-20% cover)	glandular birch willows
COMMENTS: willows may surround these sites		

CHAPTER FIVE

CORRELATION

Table 5.1 shows correlation of the B.C. Ministry of Forests and Lands Biogeoclimatic Zonation (Mitchell et al, 1981) to the zonation from the Present Study. Because of complexity, vegetation landscapes were not correlated with B.C. Ministry of Forests and Lands' Ecosystem Associations. This was done for an adjacent area in Lea et al (1985).

Table 5.1 Comparison of Vegetation Zonation for the present study with Biogeoclimatic Zonation.

Present Study		Biogeoclimatic (Mitchell et al, 1981)	
Vegetation Zone	Subzone	Zone	Subzone
Interior bunch grass zone (IBG)		Ponderosa pine[1] - bunchgrass (PPBG)	Very Dry Northern PPBG, Grassland (PPBGa)
Interior Rocky Mountain Douglas-fir (ID)	Ponderosa pine subzone (IDa)		Very Dry Northern PPBG, Forested (PPBGd)
		Interior Douglas-fir (IDF)	Very Dry Submontane IDF (IDFa)
	Rocky Mountain juniper - Douglas-fir subzone (IDd)		
	Lodgepole pine subzone (IDb)		Very Dry Montane IDF (IDFb)
			Dry Western Montane IDF (IDFd)
	Paper birch - trembling aspen subzone (IDe)		
Interior White spruce zone (IwS)		Montane Spruce (MS)	Very Dry Southern Montane Spruce (MSc)
Subalpine Engelmann spruce - alpine fir zone (SAeS-alF)	Rocky Mountain Douglas-fir lodgepole pine subzone (SAes-alFa)		Dry Montane Spruce (MSb)
	Lodgepole pine subzone (SAeS-alFb)	Engelmann Spruce - Subalpine Fir	Very Dry Southern Engelmann Spruce - Subalpine Fir (ESSFd)
			Dry Southern Engelmann Spruce - Subalpine Fir (ESSFe)

[1] The Ministry of Forests and Lands have recently divided the Ponderosa Pine - Bunchgrass Zone into two zones, a Ponderosa Pine Zone and a Bunchgrass Zone. Detail of subzones have not been published.

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APPENDIX A
PLANT SPECIES LIST

COMMON NAME	BOTANICAL NAME
alders	Alnus spp.
alfalfa	Medicago sativa
alkali grass	Spartina gracilis
alkali cord grass	Puccinellia spp.
alpine fir	Abies lasiocarpa
American red raspberry	Rubus idaeus
American vetch	Vicia americana
arboreal lichens	Alectoria spp., Bryoria spp., Usnea spp.
arctic lupine	Lupinus arcticus
arctic rush	Juncus arcticus
arrowhead	Sagittaria spp.
arrow-leaved balsamroot	Balsamorhiza sagittata
beaked sedge	Carex rostrata
big sagebrush	Artemisia tridentata subsp. tridentata
birch-leaved spirea	Spiraea betulifolia
black blueberry	Vaccinium membranaceum
black cottonwood	Populus balsamifera subsp. trichocarpa
black swamp gooseberry	Ribes lacustre
bladderwort	Utricularia spp.
blue grass	Poa spp.
bluejoint small reed grass	Calamagrostis canadensis
blueberries	Vaccinium spp.
bluebunch wheat grass	Agropyron spicatum
brittle prickly-pear cactus	Opuntia fragilis
buckbean	Menyanthes trifoliata
bulrushes	Scirpus spp.

APPENDIX A (CONTINUED)

COMMON NAME	BOTANICAL NAME
Canadian bunchberry	Cornus canadensis
choke cherry	Prunus virginiana
clovers	Trifolium spp.
common cattail	Typha latifolia
common dandelion	Taraxacum officinale
common horsetail	Equisetum arvense
common juniper	Juniperus communis
common moss	Pleurozium schreberi
common rabbitbrush	Chrysothamnus nauseosus
common saskatoon	Amelanchier alnifolia
common selaginella	Selaginella densa
common silverweed	Potentilla anserina
common snowberry	Symphoricarpos albus
common timothy	Phleum pratense
cream-coloured peavine	Lathyrus ochroleucus
crested wheat grass	Agropyron cristatum
currants	Ribes spp.
dandelion	Taraxacum officinale
diffuse knapweed	Centaurea diffusa
Douglas-fir	Pseudotsuga menziesii
drooping brome grass	Bromus tectorum
duckweed	Lemna spp.
dwarf blueberry	Vaccinium caespitosum
elders	Sambucus spp.
Engelmann spruce	Picea engelmannii

APPENDIX A (CONTINUED)

COMMON NAME	BOTANICAL NAME
feather moss	Ptilium crista-castrensis
few-flowered wintergreen	Orthillia secunda
field locoweed	Oxytropis campestris
filbert	Corylus cornuta
fireweed	Epilobium angustifolium
foxtail barley	Hordeum jubatum
glandular birch	Betula glandulosa
glandular-leaved Labrador tea	Ledum glandulosum
great mullein	Verbascum thapsus
grouseberry	Vaccinium scoparium
hawkweeds	Hieracium spp.
heart-leaved arnica	Arnica cordifolia
high bush cranberry	Viburnum edule
horsetails	Equisetum spp.
Kentucky blue grass	Poa pratensis
kinnikinnick	Arctostaphylos uva-ursi
knapweed	Centaurea spp.
lance-leaved stonecrop	Sedum lanceolatum
layered moss	Hylocomium splendens
lodgepole pine	Pinus contorta
low pussytoes	Antennaria dimorpha
lupines	Lupinus spp.
mountain-ash	Sorbus spp.

APPENDIX A (CONTINUED)

COMMON NAME	BOTANICAL NAME
needle-and-thread grass	Stipa comata
needle grasses	Stipa spp.
northern red-fruited comandra	Geocaulon lividum
northern twinflower	Linnaea borealis
northwestern sedge	Carex concinnoides
Oregon boxwood	Paxistima myrsinites
Oregon-grape	Mahonia spp.
Pacific field wormwood	Artemisia campestris
Pacific menziesia	Menziesia ferruginea
paper birch	Betula papyrifera
penstemons	Penstemon spp.
pine grass	Calamagrostis rubescens
poison-ivy	Toxicodendron rydbergii
ponderosa pine	Pinus ponderosa
pondweed	Potamogeton spp.
prairie koeleria	Koeleria macrantha
prairie sagebrush	Artemisia frigida
prickly-pear cactus	Opuntia spp. (O. fragilis and O. polyacantha)
Pursh's sea-blite	Suaeda depressa
pussytoes	Antennaria spp.
racemose pussytoes	Antennaria racemosa
red goosefoot	Chenopodium rubrum
red-osier dogwood	Cornus sericea
redstem ceanothus	Ceanothus sanguineus

APPENDIX A (CONTINUED)

COMMON NAME	BOTANICAL NAME
Richardson's needle grass	Stipa richardsonii
Rocky Mountain Douglas-fir	Pseudotsuga menziesii var. glauca
Rocky Mountain juniper	Juniperus scopulorum
Rocky Mountain maple	Acer glabrum
roses	Rosa spp. (mainly R. acicularis)
rough fescue	Festuca scabrella
round-leaved alumroot	Heuchera cylindrica
sagebrush mariposa lily	Calochortus macrocarpus
salt grass	Distichlis stricta
sand dropseed	Sporobolus cryptandrus
Sandberg's blue grass	Poa sandbergii
saskatoon	Amelanchier alnifolia
Scouler's willow	Salix scouleriana
sedges	Carex spp.
shaggy fleabane	Erigeron pumilus
showy aster	Aster conspicuus
shrubby penstemon	Penstemon fruticosus
silky lupine	Lupinus sericeus
Sitka alder	Alnus viridis subsp. sinuata
smooth sumac	Rhus glabra
snowbush ceanothus	Ceanothus velutinus
soopolallie	Shepherdia canadensis
spotted knapweed	Centaurea maculosa
spreading dogbane	Apocynum androsaemifolium
spruce	Picea glauca X engelmannii
thin-leaved mountain alder	Alnus incana subsp. tenuifolia
thistles	Cirsium spp.

APPENDIX A (CONTINUED)

COMMON NAME	BOTANICAL NAME
timber milk-vetch	*Astragalus miser*
trembling aspen	*Populus tremuloides*
twinberry honeysuckle	*Lonicera involucrata*
umbrellaplant	*Eriogonum* spp.
water-milfoil	*Myriophyllum* spp.
water-plantain	*Alisma plantago-aquatica*
water sedge	*Carex aquatilis*
western birch	*Betula occidentalis*
western needle grass	*Stipa occidentalis*
western red cedar	*Thuja plicata*
western thimbleberry	*Rubus parviflorus*
white spruce	*Picea glauca*
white-flowered rhododendron	*Rhododendron albiflorum*
wild rye grasses	*Elymus* spp.
wild sarsaparilla	*Aralia nudicaulis*
wild strawberry	*Fragaria virginiana*
willows	*Salix* spp.
wood-rushes	*Luzula* spp.
yarrow	*Achillea millefolium*
yellow pond-lily	*Nuphar lutea*

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Wildlife Working Reports should not be cited because of the preliminary nature of the data they contain

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